

What is claimed is:

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1. A helical rotary cutter comprising:

a rotor having an outer surface, a left end, a right end, a rotor axis, a left end bearing support concentric with the rotor axis and extending axially to the left of the left end, and a right end bearing support concentric with the rotor axis and extending axially to the right of the right end;

a plurality of grooves in said rotor extending from the left end to the right end;

a first groove wall in a first wall plane extending axially from the left end wall to the right end wall, extending outward away from the rotor axis and in the direction of rotation, and wherein said first wall plane intersects the rotor axis;

a plurality of first base support surfaces, that are each in a base support plane that is perpendicular to the first wall plane and wherein all the base support planes that are perpendicular to said first groove wall intersect each other;

a plurality of first rectangular flat cutter blades each of which has a left blade end, a right blade end, a cutting edge and a base that is parallel to the cutting edge and wherein the base of each of the plurality of first rectangular cutter blades is seated on one of the plurality of first base support surfaces;

and

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at least one clamp member clamping the plurality of first rectangular flat cutter blades to the first groove wall.

2. A helical rotary cutter as set forth in claim 1 wherein the first groove wall is a trailing groove wall.

3. A helical rotary cutter as set forth in claim 1 wherein the first groove wall is a leading groove wall.

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4. A helical rotary cutter as set forth in claim 1 including a second groove wall in a second wall plane extending axially from the left end wall to the right end wall, extending outward away from the rotor axis and in the direction of rotation, and wherein said second wall plane intersects the rotor axis;

a plurality of second base support surfaces, that are perpendicular to said second groove wall, and that are each in a second base support plane that is perpendicular to the second wall plane and wherein all the second base support planes that are perpendicular to said second wall plane intersect each other;

a plurality of second rectangular flat cutter blades each of which has a left blade end, a right blade end, a cutting edge and a base that is parallel to the cutting edge and wherein the base of each of the plurality of second rectangular flat cutter blades is

Sub B6) seated on one of the plurality of second base support surfaces; and

wherein the at least one clamp member clamps the plurality of second rectangular flat cutter blades to said second groove wall.

5. A helical rotary cutter as set forth in claim 4 wherein the at least one clamping member is a plurality of wedge members each of which clamps one of the plurality of rectangular flat cutter blades to the first wall and one of the plurality of second rectangular flat cutter blades to the second groove wall,

6. A helical rotary cutter as set forth in claim 4 wherein each of the plurality of grooves in said rotor includes: a first groove wall, a plurality of first base support surfaces that are perpendicular to said first groove wall, a second groove wall, a plurality of second base support surfaces that are perpendicular to said second groove wall, a plurality of first cutter blades each of which is in contact with one of the plurality of first base support surfaces, a plurality of second cutter blades each of which is in contact with one of the plurality of first base support surfaces, and a plurality of wedges clamping the plurality of first cutter blades and the plurality of second cutter blades to said rotor.

add a1 >

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add C1